

MATVEYEVA, A. V.

(4)

18841* (Physical and Chemical Properties of Silane Hydrocarbons: Dialkylsilanes, 1,3-Dialkylsilanes, Dipropylsilane, and Hexylsilane.) Fizicheskie i khimicheskie svoystva krossilovodородов (Silanes, 1,3-disilanes, dipropylsilane i geksilsilane). M. I. Matvey, V. A. Tsvetkovskiy, A. D. Matvey, and A. D. Tsvetkov. Doklady Akad. Nauk SSSR, v. 98, no. 4, Apr. 1, 1954, p. 805-808 + 1 plate. Compare properties of corresponding hydrocarbons. Micrographs, tables, 4 ref.

9-17-54
SP

SHOSTAKOVSKIY, M. P.; BATUYEV, M. I.; CHEKULAYEVA, I. A.; MATVEYEVA, A. D.

Optical study of certain ethanolamine vinyl ethers. ~~-----~~ Izv. AN
SSSR. Otd. khim. nauk no. 3: 544-550 My-Je '55. (MIRA 8:9)

1. Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii
nauk SSSR.

(Vinyl ethers) (Ethanol)

Matveyeva, A. D.

MESHCHERYAKOV, A.P.; BUTUYEV, M.I.; MATVEYEVA, A.D.

Synthesis of tert-butyl hydroperoxide, of ditert-butyl peroxide, and their optical studies in view of the problem of hydrogen peroxide structure. Izv.AN SSSR.Otd.khim.nauk no.4:742-749 J1-Ag '55. (MIRA 9:1)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR.

(Butyl hydroperoxide) (Butyl peroxide)

MATVEYEVA, A.D.

BATUYEV, M.I.; PONAMARENKO, V.A.; MATVEYEVA, A.D.; SNEGOVA, A.D.

Cis-trans-isomerism of 1, 2-di - (trichlorosilyl) ethylene. Izv.
AN SSSR. Otd.khim.nauk no.11:1420-1421 N '56. (MLRA 10:3)

1. Institut goryuchikh iskopayemykh Akademii nauk SSSR.
(Silicon organic compounds)

MATVEYEVA, A.D.
USSR/Physical Chemistry - Molecule, Chemical Bond.

B-4

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6979.

Author : M.I. Batuyev, V.A. Ponomarenko, A.D. Matveyeva, A.D. Snegova.

Inst : Academy of Sciences of USSR.

Title : Optical Investigation of Intermolecular Interaction Si...Cl.

Orig Pub: Izv. AN SSSR. Otd. khim. n., 1957, No 4, 515-516.

Abstract: Blurring of lines referred to the valence vibrations C-Cl (722 cm^{-1}) and Si-Cl (448 cm^{-1}) was observed in the Raman spectrum of the silico-organic β -halide $\text{Cl}_3\text{SiCH}_2\text{CH}_2\text{Cl}$. This blurring disappears in cyclohexane solution. Also, it is not observed in compounds of the $\text{Cl}_3\text{Si-CH}_2\text{CH}_2\text{CH}_2\text{Cl}$, $\text{Cl}_3\text{Si-CH}_2\text{-CH}_2\text{-SiCl}_3$, $\text{Cl}_3\text{Si-CH}_2\text{CH}_2\text{CH}_3$ and other types. This phenomenon is explained by the existence of molecular associations caused by an interaction analogous to the hydrogen bond. An easy ethylene and SiCl_4 formation is observed just in the case of the β -halide.

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MATVEYEVA, A.D.

BATUYEV, M.I.; PETROV, A.D.; PONOMARENKO, V.A.; MATVEYEVA, A.D.

Spectroscopic investigation of factors conditioning β -elimination
reactions of β -haloalkylsilanes. Zhur. ob. khim. 26 no.8:2336-2346
Ag '56. (MLRA 10:11)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Silane--Spectra)

Optical study of reaction which was the reaction of 4-
chloro-2-nitrophenol with 2-hydroxy-1-naphthol in the presence of
Petrov, V. A., Gromova, N. I., and M. I. Eshay, A. D.
D. M. Petrov, A. D. M. Petrov, A. D. M. Petrov, A. D.

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Matveyeva, A. D.

PETROV, A.D.; BATUYEV, M.I.; PONOMAREV, V.A.; SNEGOVA, A.D.; MATVEYEVA, A.D.;
SOKOLOV, B.A.

Chlorination and bromination of phenyltrichlorosilane and the
Raman spectra of halide substituted phenyltrichlorosilanes.
Zhur. ob. khim. 27 no.8:2057-2061 Ag '57. (MLRA 10:9)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Silane)

Matveyeva, A. D.

20-3-18/52

AUTHORS:

Batuyev, M. I., Akhrem, A. A., Matveyeva, A. D.,
and Nazarov, I. N., Academician (~~Deceased~~)

TITLE:

Optical Investigation of Conformations of Cis- and Trans-2-
-Methyl-1-ethylcyclohexanols (Opticheskoye issledovaniye kon-
formatsiy tsis- i trans-2-metil-1-etiltsiklogeksanolv)

PERIODICAL:

Doklady AN SSSR, 1957, Vol. 117, Nr 3, pp. 423-426 (USSR)

ABSTRACT:

1.) According to recent investigations cyclohexane mainly ex-
ists in a "chair"-like (kresloobraznaya) form, which possesses
a minimum of energy. The C--H bindings of this form may be
placed at two groups: a) those which are parallel to the OZ-
axis ("a" = axial bindings) and b) those which form an angle
of $+19,5^\circ$ together with the OXY-surface ("e" = equatorial
bindings). Because of the not great repelling powers between
the hydrogen atoms the "chair"-like form is preferred with
respect to the energy. For, in the "tub"-like ("vannoobraznaya")
form the distances of each equatorial hydrogen atom ($\sim 1,83 \text{ \AA}$)
are smaller, than the sum of two Van-der-Waal's radii.
Khassel (ref. 1) has formulated a rule: in the series of the
poly-substituted cyclohexanes the isomere with the greatest num-
ber of equatorial substituents is most steady.
2.) In the thirties Chiurdoglu (ref. 8) has identified the

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Optical Investigation of Conformations of Cis- and Trans-2- 20-3-18/52
-Methyl-1-ethylcyclohexanols.

cis- and trans-isomers and others of the cis- and trans-dimethylcyclohexanols, without distinguishing here the conformations. Two of the authors of the present work (ref. 9) have synthesized the substances (I) and (II) mentioned in the title and transformed them on to the known pair of cis- and trans-1,2-dimethylcyclohexanols (III) and (IV). But their "conformation" cannot be defined exactly chemically. Here, the problem is investigated by means of the method of the combination-light-scattering, and for both substances mentioned in the title spectra were found out.

3.) Guiding principles experimentally proved a.) - g.) served the authors for the investigation of the obtained optical data.
4.) Cis- and trans-2-methyl-1-ethylcyclohexanols (I) and (II) form an intermolecular hydrogen compound in the liquid phase. This is expressed in the spectra by the fading of the frequency-band of the hydroxyl group. In solutions of these substances the faded bands disappear, because the intermolecular hydrogen bindings within the solutions are opened. The C -- OH-binding is equatorial in the isomere I, which has a frequency of the hydroxyl group 3604 cm^{-1} , and axial in the isomere II with a frequency of that group 3619 cm^{-1} .

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Optical Investigation of Conformations of Cis- and Trans-2-Methyl-1-ethylcyclohexanols.

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5.) The pulsating frequency in the spectra of the epimeres I and II is, as well in the liquid state as in solutions not single, but triplicated. The most intense frequency of the isomere I is 682 cm^{-1} , of the isomere II 693 cm^{-1} . The first belongs to the cis-, the latter to the trans-isomere. These frequencies remain preserved in the spectra of the solutions. Each of them occurs in the spectrum of the other substance with a weakened intensity. Because, as is said, the C--OH binding at the isomere I (= cis-isomere) is equatorial, whilst at the isomere II (= trans-) it is axial, isomere I is an epimere ep, and isomere II - an epimere ee (apart from admixtures of other conformations).

6.) This is confirmed, too, by data on the frequencies of the C--O bindings, as in the spectrum of the isomere I the frequency system within the range concerned is, compared to the spectrum of the isomere II, removed to the side of short wave-length.

7.) By the isomeres I and II the components of the molecules (ethyl- and methyl radicals, hydroxyl) possess a freedom of rotation around the single bindings. This, apparently, is the source of their conversion transformations and of the appearance of small quantities of unsteady, tub-like conformations,

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- . Optical Investigation of Conformations of Cis- and Trans-2- 20-3-18/52
- . -Methyl-1-ethylcyclohexanols.

equipped with a pulsating frequency (apparently higher than 802 cm^{-1}), beside the mentioned two principle conformations. There are 1 figure, and 19 references, 7 of which are Slavic.

ASSOCIATION: ~~Institute~~ for Mineral Fuels, Institute for Organic Chemistry imeni N. D. Zelinskiy AN USSR (Institut goryuchikh iskopayemykh, Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR).

SUBMITTED: August 17, 1957

AVAILABLE: Library of Congress

Card 4/4

MATVEYEVA A.D.

AUTHORS: Batuyev, M. I., Meshcheryakov, A. P., Matveyeva, A.D., 62-1-13/29

TITLE: Optical Investigation of the Structure of the Lower Polymers of Isobutylene (Opticheskoye issledovaniye stroyeniya nizshikh polimerov izobutilena)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp 75 - 84 (USSR)

ABSTRACT: The inclination of isobutylene for polymerization found for the first time by Butlerov was investigated already by himself and described in a series of papers. This was also done by Wagner, Prilezhayev, El'tekov and others. The results of the chemical and optical investigation of the structure of the polymers of isobutylene hitherto published turned out to be contradicting. In the present paper the coincidence (as to the chemical and optical aspects) in the question about the isomers prevailing in the corresponding fractions is pointed out. Beginning with the fraction of the trimer they are inactive as regards further polymerization. The active forms take part in the formation of highest polymers and do not accumulate in the lowest stages of polymerization. Furthermore it was explained that the assumption concerning a conditioned double phenomenon (or a double) in the field of the frequency of double binding in lowest polymers (by

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Optical investigation of the Structure of the Lower Polymers of Isobut- 62-113²₉
ylene

inversion isomerism) does not correspond to the facts [formulae
(1) to (XVI)] . There are 1 table, and 16 references, 11 of
which are Slavic.

ASSOCIATION. Institute of Mineral Fuels, AS USSR (Institut goryuchikh
iskopayemykh Akademii nauk USSR)

SUBMITTED: July 27, 1956

AVAILABLE: Library of Congress

1. Isobutylene-Polymerization

Card 2/2

Matveyeva, A.D.

AUTHORS: Baturev, M. I., Bardyshev, I. I., Matveyeva, A.D. 62-2-17/28

TITLE: The Spectra of the Combination Dispersion of the Light of Some Hydrocarbons (Spektry kombinatsionnogo rasseyaniya sveta nekotorykh uglevodorodov).

Periodical: Izvestiya AN SSSR Otdel'nye Khimicheskikh Nauk, 1958, Nr 2, pp. 232-233 (USSR).

ABSTRACT: The investigated terpenic hydrocarbons belong to the compounds of the meta-series silvestrene-isosilvestrene-silveterpinolene. For their physical constants see table 1. The spectra of the combination dispersion of these compounds were taken on a three-prism spectrograph (NCH-51). The nature of the two double bonds in the investigated compounds may be very well determined in the given optical data. In silvestrene the double bonds are far distant from each other; it may therefore be assumed that no interaction takes place between them and that they are independent. In isosilvestrene the double bonds are by one C—C member closer to each other than in silvestrene. In the latter the ethylene-substituent is in a -position, in isosilvestrene, however, in an -position (in relation to the double bond of the ring). In silveterpinolene the double bonds

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The Spectra of the Combination Dispersion of the Light
of Some Hydrocarbons.

62-2-17/28

are still closer to each other and an intensive interaction takes place. The fact that one of the two double bonds is outside the ring and the other one inside the ring causes the complicated nature of interaction of the double bonds, as in silveterpinolene, butadiene-1,3 and similar systems. There are 1 table and 1 reference.

ASSOCIATION: Institute for Fossil Fuels AN USSR (Institut goryuchikh isko-payemykh Akademii nauk SSSR) and Belorussian Wood-Technical Institute imeni S.M. Kirov (Belorusskiy lesotekhnicheskiy institut imeni S.M. Kirova).

SUBMITTED: September 18, 1957

AVAILABLE: Library of Congress

1. Terpenes-Spectra
2. Hydrocarbons-Spectra
3. Terpenic hydrocarbons-Spectra
4. Terpenic hydrocarbons-Exchange reactions

Card 2/2

AUTHORS:

SOV/62-58-8-13/22
Batuyev, M. I., Ponomarenko, V. A., Matveyeva, A. D.
Snegova, A. D.

TITLE:

The Optical Investigation of the C - H Bond of Some Alkyl
Silane and Disilane Chlorides and Their Chlorine Derivatives
as Related to the Properties of Their Chlorination (Opticheskoye
issledovaniye svyazi C - H nekotorykh alkilsilan- i disilan-
khloridov i ikh khlorproizvodnykh v svyazi s osobennostyami ikh
khlorirovaniya)

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk,
1958, Nr 8, pp. 996-1003 (USSR)

ABSTRACT:

The chlorination of methyl silane and chloromethyl silane
chlorides with simultaneous irradiation was first carried out
by Kriebel and Elliot (Kriebel and Elliot) and later on it was
investigated in detail by Speier (Speyer, Refs 2-4). Then some
phenomena of specifically anomalous character were found. In
the present paper the authors report on the result of their
investigation of the C - H bond as well as of some alkyl
silane and disilane chlorides. It turned out that along with the
increase in number of the chlorine atoms in silicon and in the

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The Optical Investigation of the C - H Bond of Some Alkyl Silane and Di-
silane Chlorides and Their Chlorine Derivatives as Related to the Properties
of Their Chlorination

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alkyl chains of the alkyl silane chlorides a regular increase of the effective electron density of the corresponding C - H bonds takes place. The anomalies in the chlorination of methyl silane chloride and chloromethylsilane chloride found by other authors could not be proved by the authors. Perhaps the direction taken by the mentioned chlorination could be called an anomalous phenomenon. It is assumed that this direction is caused by spatial hindrances which complicate the whole process. There are 7 tables and 8 references, 4 of which are Soviet.

ASSOCIATION: Institut goryuchikh iskopayemykh i Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Mineral Fuels and Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: January 23, 1957

Card 2/2

5(3)

AUTHORS:

Batuyev, M.I., Akhrem, A.A.,
Matveyeva, A.D., Nazarov, I.N.

SOV/62-58-11-20/26

TITLE:

Optical Investigation of Cis- and Trans-2-Methyl-1-Acetyl
Cyclohexanol Conformations
(Opticheskoye issledovaniye konformatsiy tsis- i trans-2-metil-
-1-atsetiltsiklogeksanolov)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1958,
Nr 11, pp 1389 - 1392 (USSR)

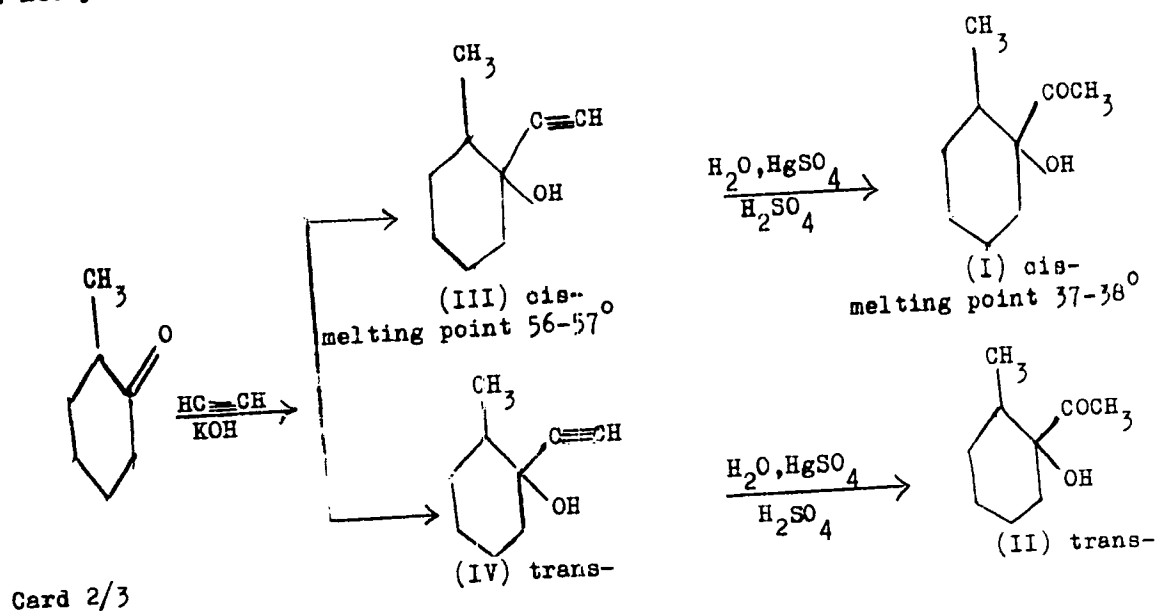
ABSTRACT:

In this brief report the authors described the investigation of
the conformation of epimeric 2-methyl-1-acetyl cyclohexanols (I)
and (II) obtained by means of hydration of the corresponding
2-methyl-1-ethynyl cyclohexanols (III) and (IV) (Ref 2):

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Optical Investigation of Cis- and Trans-2-Methyl-
-1-Acetyl Cyclohexanol Conformations

SOV/62-58-11-20/26



Optical Investigation of Cis- and Trans-2-Methyl-
-1-Acetyl Cyclohexanol Conformations

SOV/62-58-11-20/26

Physical properties of 2-methyl-1-acetyl cyclohexanols (I) and (II) are given in the table. It was ascertained that 2-methyl-1-acetyl cyclohexanol in the cis-configuration exists predominantly in the conformation "ae", whereas in the trans-configuration it exists in form of an "ee"-conformation. There are 2 figures, 1 table, and 5 references, 3 of which are Soviet.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR
(Institute of Mineral Fuels of the Academy of Sciences USSR)
Institut organicheskoy khimii im.N.D.Zelinskogo Akademii nauk SSSR
(Institute of Organic Chemistry imeni N.D.Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: April 8, 1958

Card 3/3

5(4)

AUTHORS:

Batuyev, M.I., Matveyeva, A.D.

SOV/62-58-11-21/26

TITLE:

Spectrum of the Combination Scattering of Light by Hexachloro Butadiene (Spektr kombinatsionnogo rasseyaniya sveta gekсахlor-butadiyena)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1958, Nr 11, pp 1393 - 1395 (USSR)

ABSTRACT:

In this brief report the authors described the influence exerted by the conjugation of double bonds in hexachloro butadiene upon different aspects of the structure of this molecule. When investigating hydrocarbon molecules with multiple bonds, usually the CC bonds in ethane, ethylene and acetylene are assumed as standards. The conventional unit for the length of the CC bonds is 1,2 or 3 respectively (Ref 3). The length of the CC bonds of higher order is shortened and the frequencies of their oscillations as well as the energy are increased (Table 1). Since the multiple bonds are characteristic the mentioned mutual changes of their parameters are a regular phenomenon. On account of these regularities conclusions can be drawn on other unknown parameters (Ref 7). Although the mentioned phenomena relate to the systems

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Spectrum of the Combination Scattering of Light by
Hexachloro Butadiene

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$\text{Cl}_2=\text{C}(\text{Cl})-(\text{Cl})\text{C}=\text{CCl}_2$, $\text{Cl}-\text{C}\equiv\text{C}-\text{C}\equiv\text{C}-\text{Cl}$, of which the $\text{C}=\text{C}$ and $\text{C}\equiv\text{C}$ bonds are characteristic, with respect to these naturally hexachloro ethane ($\text{Cl}_3\text{C}-\text{CCl}_3$), tetrachloro ethylene ($\text{Cl}_2\text{C}=\text{CCl}_2$) and dichloro acetylene ($\text{ClC}\equiv\text{CCl}$) should be assumed as standards. At present not all data on the parameters of the CC bonds in these compounds are available. Available data on the CC bonds of hexachloro ethane and tetrachloro ethylene are given (Table 2). It has been ascertained that the conjugation of two double bonds in hexachloro butadiene leads to a shortening in the length of the $\text{C}-\text{C}$ and $\text{C}=\text{C}$ bonds, i.e. to a certain contraction of the whole molecule. There are 1 figure, 2 tables, and 7 references, 3 of which are Soviet.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR
(Institute of Mineral Fuels of the Academy of Sciences, USSR)

Card 2/3

SOV/20-120-4-25/67

AUTHORS: Batuyev, M. I., Akhrem, A. A., Matveyeva, A. D.,
Kamernitskiy, A. V., Nazarov, I. N., Member, Academy of
Sciences, USSR (Deceased)

TITLE: Optical Investigation of the Conformations of Some Gem-Sub-
stituted Cyclohexanes (Opticheskoye issledovaniye konfor-
matsiy nekotorykh gem-zameshchennykh tsiklogeksanov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 4, pp. 779-782
(USSR)

ABSTRACT: The physical properties and the reactivity of the functional
group depend on its position and conformation. The position
can be axial or equatorial. This can sometimes be determined
chemically but frequently only by means of physical methods
(Refs 1, 2). The authors deal with the optical determination
of the conformation of epimeric 2-methyl-1-ethynyl cyclo-
hexanols (I), (II), furthermore, with that of 1,2-dimethyl
cyclohexanols (III), (IV) which they had already earlier
synthesized (Ref 3); the method is described in short and a
survey of publications is given (Refs 3, 4). Formerly the
acetylene alcohols (I) and (II) were traced back by the

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Optical Investigation of the Conformations of Some Gem-Substituted Cyclohexanes

authors to the well known pair of cis- and trans-carbinols (III) and (IV) without touching the asymmetric center (Ref 3). The physical properties of the produced compounds (I) - (IV) are shown in table 1. The spectra of the combination light dispersion in the liquid phase were taken on the spectrogram ISP -51 of a mercury lamp having a chamber of the exciting blue line of 4358 Å. The numerical results of these measurements are given together with data on the intensity of the lines. Furthermore, spectra were taken of 10 % solutions of the first 2 substances in carbon tetrachloride. The presence of the 2 isomers I and II and of their solutions in CCl₄ in the spectra in the range of 3 - 4 (instead of only one) characteristic frequencies of other weak lines (Table 2) tends to show, that other conformations are present in small numbers (possibly even in bath-tub shape) in the mixture where conformations prevail. The prevailing conformation in the cis-isomer (I) is "ae" (according to Ref 1) whereas in the trans-isomer it is "ee" (see scheme). In the ae-conformation the influence of the cycle on the hydroxyl group in the equatorial position is more intensive than in "ee", where it is in axial position. In the ae-conformation the

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Optical Investigation of the Conformations of Some Gem-Substituted Cyclohexanes

hydroxyl group is more protonized than the axial group in "ee". On the other hand the bindings $\text{C}\equiv\text{C}$, $\text{C}-\text{C}$ in $-\text{C}\equiv\text{CH}$ in the equatorial position which they take in the "ee" conformation are more amply supplied with electrons. That means they have higher oscillation frequencies, binding energies and a shorter interatomic distance than they would have in an axial position in an "ae" conformation (Refs 1, 6). The interaction between reactivity and conformation in the series of cyclohexane derivatives was already at an earlier time observed by the authors. (Ref 7). Cis- α -ketole (V) which was obtained from an equatorial acidous hydroxyl can be acylated under milder conditions than trans- α -ketole (VI) which was produced from (II) with the hydroxyl being in an axial position. There are 2 tables and 7 references, 4 of which are Soviet.

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SOV/20-120-4-25/67
Optical Investigation of the Conformations of Some Gem-Substituted Cyclohexanes

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR
(Institute of Organic Chemistry AS USSR).
Institut goryuchikh iskopavemvkh Akademii nauk SSSR
(Institute of Mineral Fuels AS USSR)

SUBMITTED: February 15, 1958

1. Cyclohexanes---Optical analysis 2. Cyclohexanes---Physical
properties 3. Substitution reactions 4. Hydroxyl radicals
---Chemical effects

Card 4/4

5(4)

AUTHORS:

Batuyev, M. I., Akhrem, A. A.,
Kamernitskiy, A. V., Matveyeva, A. D.

SOV/62-59-3-31/37

TITLE:

Optical Investigation of the Conformations of the Cis- and Trans-methyl Esters of 3-Methyl Cyclohexanol Carboxylic Acids (Opticheskoye issledovaniye konformatsiy tsis- i trans-metilovykh efirov 3-metiltsiklogeksanolkarbonovykh kislot)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 556-558 (USSR)

ABSTRACT:

This is a brief communication on the investigation of the cis- and trans-methyl esters of 3-methyl cyclohexanol carboxylic acids which were synthesized according to the scheme described in reference 1. The physical properties of the products obtained are given in the table. It is known that the Auers-Skit formula for the cis- and trans-configurations of 1,3-disubstituted cyclohexanes may be applied in the reversible form. The same holds also for the esters investigated: the cis-compound has a lower density and a smaller refraction index than the trans-compound. The Raman spectra of the esters were recorded in the liquid phase by means of the ISP-51 spectrograph with a medium camera of the exciting line 4358 of the

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Optical Investigation of the Conformations of the SOV/62-59-3-31/37
Cis- and Trans-methyl Esters of 3-Methyl Cyclohexanol Carboxylic Acids

quartz lamp. The cis- and trans-methyl esters of 3-methyl cyclohexanol carboxylic acids investigated are mixtures of reversible isomers $1e3e \rightleftharpoons 1a3a$ and $1e3a \rightleftharpoons 1a3e$. In the second conformation $1e3a$ mainly the first $1e3e$ is present. Moreover, in each of these mixtures admixtures of one conformation are contained in the other. There are 1 table and 3 references, 1 of which is Soviet.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute of Mineral Fuel of the Academy of Sciences, USSR). Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 30, 1958

Card 2/2

5(4)

SOV/62-59-8-26/42

AUTHORS: Batuyev, M. I., Meshcheryakov, A. P., ~~Matveyeva, A. D.~~

TITLE: Raman Spectra of Divinyl Acetylene

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 8, pp 1485-1487 (USSR)

ABSTRACT: The spectra were photographed by means of the spectrograph of the type ISP-51 with the Hg line (4358 Å). The individual lines obtained for the compound $\text{CH}_2 = \text{CH}-\text{C}\equiv\text{C}-\text{CH}=\text{CH}_2$ are given. Within the range of the triple bond two basic frequencies (intensive doublet) were obtained at 2165 and 2206 cm^{-1} , and four frequencies in the range of the double bonds (intensive doublet), at 1586, 1601 cm^{-1} , and two weaker lines at 1629 cm^{-1} . The appearance of the doublet is due to the possibility of the existence of rotatory isomers. The splitting-up of the frequencies of the double bonds is interpreted as the splitting of the frequency of the bond oscillations of two identical double bonds in each of the two possible isomers. The great number of lines (44 as against 30 in the case of one form only) is considered to point to the probable existence of both isomers.

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Raman Spectra of Divinyl Acetylene

SOV/62-59-8-26/42

The multiple bonds must, according to the energy minimum of the bond system, lie in one plane. On this condition the two isomers (the cis (I) and trans forms (II)) are possible. The authors continue by attributing the several lines obtained to the two isomers by means of comparing them with the infrared spectrum. The lines are also interpreted as resulting from the mutual influence of double bond - triple bond and double bond - double bond. A table lists the frequencies of the oscillations of the individual bond types. It follows that the triple bond in (I) with a high electron density corresponds to a pair of double bonds with a reduced electron density, while the triple bond in (II) with a reduced electron density corresponds to a pair of double bonds with a high electron density. The electron shells of the C atoms of the triple bond in (I) are more asymmetrical than in (II) so that there is a greater influence of this bond upon the double bonds in (I) than there is in (II). In the liquid

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Raman Spectra of Divinyl Acetylene

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phase both isomeric forms are encountered; however, there is a marked preponderance of the trans form. There are 1 table and 9 references, 4 of which are Soviet.

ASSOCIATION: Institut ' goryuchikh iskopayemykh ; Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Mineral Fuels; Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: January 21, 1959

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5(4)

SOV/62-59-9-25/40

AUTHORS:

Batuyev, M. L., Akhrem, A. A., Matveyeva, A. D.

TITLE:

Optical Investigation of Equatorial and Axial Carbonyl Groups of Some Substituted Cyclohexanes

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 9, pp 1665-1668 (USSR)

ABSTRACT:

The Raman spectra of the following compounds in the liquid phase, taken by means of the ISP-51 spectrograph and the E-612 Hilger spectrograph are investigated: Acetoxy-cyclohexane (I), acetyl-cyclohexane (II), 1-acetoxy-1-acetylcyclohexane (III), cis-2-methyl-1-acetoxy-1-acetylcyclohexane (IV), and trans-2-methyl-1-acetoxy-1-acetylcyclohexane (V). The physical data of the compounds are given in the table. The frequencies obtained are given in $\Delta\nu = \text{cm}^{-1}$. The configuration of the compounds (IV) and (V) was determined from the results of special analysis. Taking the largest substituent as basis, the conformation of (IV) was found to be trans-ee and trans-aa, that of (V) cis-ae and cis-ea.

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Optical Investigation of Equatorial and Axial Carbonyl Groups of Some Substituted Cyclohexanes SOV/62-59-9-25/40

The amounts of these isomers were found to be fairly equal in both cases, as was also the case for the two possible conformations of compound (III), of which equal amounts are formed. There are 4 tables and 2 Soviet references.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute for Combustible Mineral Resources of the Academy of Sciences, USSR), Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: January 21, 1959

Card 2/2

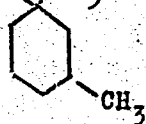
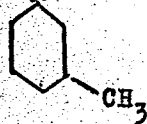
5(3)

SOV/62-59-9-26/40

AUTHORS: Batuyev, M. I., Akhrem, A. A., Kamernitskiy, A. V., Matveyeva, A. D.

TITLE: Optical Investigation of the Conformations of Cis and Trans-1,3-dimethylcyclohexanols

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 9, pp 1668-1670 (USSR)

ABSTRACT: A reaction scheme for the synthesis of the substances investigated, (I) OH-CN and (II) OH-CH₃ is given from a previous paper.

The Auer-Skit transformation rule is valid for compounds (I) and (II) (Table). The Raman spectra of the compounds were taken in the liquid phase and in carbon tetrachloride solution. From the data obtained, the following conclusions were drawn: The alcohols form intermolecular hydrogen bonds in solution (bands split up into lines in the 3160-3530 cm⁻¹ range). These hydrogen bonds do not

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Optical Investigation of the Conformations of
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stem from the hydroxyl group. In the liquid phase complexes are formed by hydrogen bonding of the OH-group (continuous bands in the 3600 and 3614 cm^{-1} region). The hydroxyl groups generally have a similar position (equatorial) in the associated complex. Thus, in (I) their position is cis-1a3a and in (II) trans-1a3e. Their position was determined at cis-1e3e in (I) and trans-1a3e and trans-1e3a in (II) (equatorial and equatorial-axial), relative to the CH_2 -group outside the hydrogen bond as the largest substituent. If one disregards the nomenclature of these configurations and conformations by reason of their formation, and regards solely their real structure, deduced from their physical properties, as well as taking into account the transformation rule by Barton and Hassel (the configuration is determined by the position of the largest substituent) one would have to redefine the cis-1a3a conformation of (I), the form predominant in associated molecules, of (I), and also the

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Optical Investigation of the Conformations of
Cis and Trans-1,3-dimethylcyclohexanols ..

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trans-1a3e conformation of (II). The nomenclature of these conformations would then be trans-1e3a and cis-1e3a respectively. There are 1 table and 3 Soviet references.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR
(Institute for Combustible Mineral Resources of the Academy of Sciences, USSR). Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: January 21, 1959

Card 3/3

5.3700

77085
SOV/62-59-12-29/43

AUTHORS: Batuyev, M. I., Ponomarenko, V. A., Matveyeva,
A. D., Vzenkova, G. Ya.

TITLE: Optical Investigation of Alkylgermanium Chlorides in
Connection With Some Peculiarities of Their Chemical
Behavior

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
nauk, 1959, Nr 12, pp 2226-2233 (USSR)

ABSTRACT: Several studies of similar content were published by the
authors previously (Zh. obshch. khimii, 1956, Vol 26,
p 2336; this journal, 1956, p 1070; ibid., 1957, p 515;
ibid., 1958, p 996). The authors showed that many
chemical characteristics distinguishing organosilicon
compounds from carbon compounds are also present, and
even more pronounced, in organogermanium compounds (this
journal, 1956, p 1146; ibid., 1957, Nr 8, p 994; ibid.,
Nr 2, p 199; Dokl. AN SSSR, 1954, Vol 94, p 485; this
journal, 1957, Nr 3, p 310). Methyltrichlorogermane
and methyltrichlorosilane, unlike ethyltrichlorogermane

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Optical Investigation of Alkylgermanium
Chlorides in Connection With Some
Peculiarities of Their Chemical Behavior

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SOV/62-59-12-29/43

and ethyltrichlorosilane, could not be chlorinated with sulfuryl chloride. Ethyltrichloro-compounds of both germanium and silicone were easily chlorinated but the β -directing effect of the GeCl_3 -group was considerably stronger than that of the SiCl_3 -group. Chlorination of CH_3GeCl_3 , $(\text{CH}_3)_2\text{GeCl}_2$, and similar compounds to di- and trichlorides proceeded more rapidly than the chlorination of the corresponding silicon compounds. The yield of germanium monochlorides was lower than that of the corresponding silicon compounds. Dehydrochlorination of $\text{Cl}_3\text{GeCH}_2\text{CH}_2\text{Cl}$ with quinoline yielded $\text{Cl}_3\text{GeCH}=\text{CH}_2$ as main product, and also GeCl_4 , whereas practically no SiCl_4 was obtained on dehydrochlorination of $\text{Cl}_3\text{SiCH}_2\text{CH}_2\text{Cl}$. This can be explained by an easier β -elimination in β -chloroethyltrichloro-germane than in β -chloroethyltrichlorosilane. These

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Optical Investigation of Alkylgermanium
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peculiarities of the chemical behavior of Ge are due in the first place to its physicochemical properties; some of these were optically investigated by the authors (this journal, 1956, p 1243). The present study deals with investigation of the vibrational frequencies of C—H bonds in methylene and methyl groups of tetraethylgermane, and ethyl-, methyl-, chloroethyl- and chloromethylgermanium as compared with vibrational frequencies of the corresponding silicon compounds and normal paraffins. Spectrograph ISP-51 was used in the study, and Raman spectra of 11 germanium compounds were investigated. A possible explanation for the behavior of Ge and Si compounds is advanced. In chlorination of $\text{CH}_3\text{CH}_2\text{GeCl}_3$, the electrophilic Cl-atoms of SO_2Cl_2 should be apparently directed toward electronegative C—H bonds at atoms adjacent to the germanium atom. However, Ge has a larger electron shell than Si; also, the negative pole of the $\text{CH}_3\text{CH}_2\text{GeCl}_3$ molecule is concentrated in the region of Cl-atoms. These factors do not allow the

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other, more negative, end of SO_2Cl_2 molecule to approach the region of the methylene C—H bonds; the molecule moves away from the methylene bond region toward the methyl group, and the chlorination proceeds in the β -position to a much greater extent than in the chlorination of $\text{CH}_3\text{CH}_2\text{SiCl}_3$. The ratio of α to β isomers in the chlorination of $\text{CH}_3\text{CH}_2\text{GeCl}_3$ with sulfuryl chloride in presence of benzoyl peroxide was 1:9, whereas in chlorination of $\text{CH}_3\text{CH}_2\text{SiCl}_3$ this ratio was only 1:2.5. It is also evident that the deflection of the SO_2Cl_2 molecule from the methyl group adjacent directly to Ge-atom in CH_3GeCl_3 due to the above factors hinders the chlorination of this compound. The Raman spectrum of β -chloroethyltrichloro-germane showed a considerably higher number of lines (15 lines more) than the number expected theoretically, and a twofold increase of the vibrational frequency of methylene C—H bonds. This indicated the possible

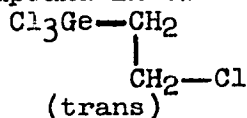
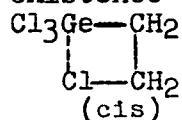
Card 4/6

Optical Investigation of Alkylgermanium
Chlorides in Connection With Some
Peculiarities of Their Chemical Behavior

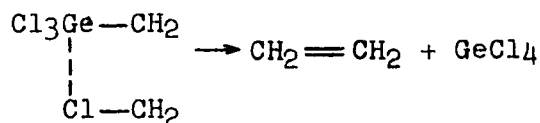
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SOV/62-59-12-29/43

existence of the above compound in two isomeric forms:



Intramolecular interaction $\text{Ge} \cdots \text{Cl}$ in the cis-isomer can promote β -elimination:



The formation of GeCl_4 on dehydrochlorination of chloroethyltrichlorogermane with quinoline can thus be explained. There are 8 tables; and

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Optical Investigation of Alkylgermanium
Chlorides in Connection With Some
Peculiarities of Their Chemical Behavior

77085

SOV/62-59-12-29/43

14 references, 1 U.S., 2 U.K., 11 Soviet.
The U.S. and U.K. references are: C. L. Agre,
W. Hilling, J. Amer. Chem. Soc., 74, 3895 (1952);
N. V. Sidgwick, The Chemical Elements and
Their Compounds, Vol 1, Oxford, 1950; W.
Cresswell, J. Leicester, A. Vogel, Chem. and
Industry, 1953, 19; same authors, J. Chem.
Soc., 1952, 514.

ASSOCIATION: Institute of Mined Fuels, Academy of Sciences,
USSR (Institut goryuchikh iskopayemykh Akademii
nauk SSSR)

SUBMITTED: February 15, 1958

Card 6/6

5.3100

67914

SOV/20-129-5-21/64

5(3)

AUTHORS: Batuyev, M. I., Akhrem, A. A., Matveyeva, A. D.TITLE: Optical Investigation of the Conformations of Acetyl Cyclohexene and Its OxidePERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 5,
pp 1038 - 1041 (USSR)

ABSTRACT: Table 1 shows the physical properties of acetyl cyclohexene and its oxide which was produced by the aid of alkaline hydrogen peroxide (Ref 1, see Scheme). The Raman spectra of both these substances were taken by means of the Soviet 3 prism spectrograph ISP-51 with a central chamber and the Hilger spectrograph Ye612 in the liquid phase. The exciting frequency 4358 Å stemmed from a mercury lamp. The measured frequencies are specified. The presence of frequencies in the region of the triple bond ($2096, 2111 \text{ cm}^{-1}$) in the spectra of both substances points to the fact that they still contained residues of the ethinyl compound utilized for their synthesis. i - C frequencies showed that the oxidation of acetyl cyclohexene was incomplete and that the oxidation product is a mixture from acetyl cyclohexene and its oxide. The oxide, how-

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Optical Investigation of the Conformations of Acetyl SOV/20-129-5-21/64
Cyclohexene and Its Oxide

ever, is clearly predominant. It was electronographically confirmed (Refs 2,3) that the carbon atoms of the double bond C_1 and C_2 are placed on or approximately on the same plane. The molecule exhibits half-chair-shaped (polukreslovidnyy) conformations (Ref 4) (see Scheme). The valencies are quasi-equatorial (e') and quasi-axial (a') at the atoms C_3 and C_6 , whereas they are equatorial (e) and axial (a) at C_4 and C_5 . Since the half-chair-shaped confirmation of cyclohexene is energetically by 2.7 kcal/mol more advantageous, and since the rules established by Barton and Khassel' (Ref 7) are evidently still valid for substituted cyclohexenes, the half-chair-shaped confirmation in acetyl cyclohexene is apparently predominant. In this connection, the acetyl group is placed on the plane of atoms $C_1C_2C_3C_6$ or on an approximated plane (see Scheme). There are no reasons for denying the conservation of the acetyl group position in the case of conversion $(I) \rightleftharpoons (II)$. The carbonyl group frequency is divided into 1663 and 1672 cm^{-1} . The ethylene bond frequency is practically not divided into a doublet. The authors are inclined to assume that


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the division of the carbonyl frequency is to be explained by the possible double position of carbonyl with respect to the ethylene formation C=C of the ring, namely, the cis-oid position ((I) \rightleftharpoons (II)) and the trans-oid position ((III) \rightleftharpoons (IV)) (see Scheme). The oscillation frequency of the ethylene bond remains practically unchanged. The oxidation of the acetyl cyclohexene on the double bond leads to the formation of a 3-membered oxide ring

C—C, whose C-C-bond belongs to the 6-membered carbon ring. The half-chair-shaped conformation of the 6-membered ring is conserved in the acetyl cyclohexene oxide (Ref 9). If the above-mentioned position of the acetyl group is conserved, the oxygen atom of the 3-membered ring (see above) is placed on a plane which is perpendicular to the plane C₁C₂C₃C₆. The above concepts were concretized by optical data supplied by the authors. It was finally confirmed that acetyl cyclohexene oxide exists in cis-oid (V) \rightleftharpoons (VI) and trans-oid (VII) \rightleftharpoons (VIII) conformations. The causes leading to the formation of both these forms are

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Optical Investigation of the Conformations of Acetyl
Cyclohexene and Its Oxide

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different in acetyl cyclohexene and in its oxide. There are 1
table and 9 references, 3 of which are Soviet. ✓

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute
of Mineral Fuels of the Academy of Sciences, USSR)

PRESENTED: July 15, 1959, by B. A. Arbuzov, Academician

SUBMITTED: July 3, 1959

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BATUYEV, M.I.; AKHREN, A.A.; MATVEYEVA, A.D.

Optical study of some acetylenic alcohols and their acetates.
Izv. AN SSSR. Otd. khim. nauk no. 12:2201-2207 D '60. (MIRA 13:12)

1. Institut goryuchikh iskopayemykh AN SSSR i Institut organicheskoy khimii im. N.Z. Zelinskogo AN SSSR.

(Acetylene compounds--Optical properties)

5.3400, 5.3100

77914
SOV/79-30-2-65/78

AUTHORS: Batuyev, M. I., Orishchenko, A. S., Matveyeva, A. D., Aronova, N. I.

TITLE: Optical Investigation of the Effect of Hydrogen Bonding on
Conjugation in Acrylic and Methacrylic Acids

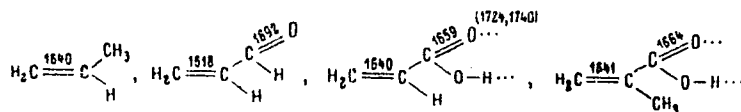
PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 657-661 (USSR)

ABSTRACT: The conjugation of the carbonyl and ethylene bonds more or less weakens (depending on the molecule structure) the ethylene bond, i.e., it decreases its electron density. This manifests itself by the decrease of the bond vibrational frequency, and consequently by the decrease of the bond energy and the increase of the interatomic distance. The study of bond frequency in methylethylene and acrolein showed that the frequency of $C\equiv C$ bond decreased from 1640 cm^{-1} to 1618 cm^{-1} ; and that of $C=O$ bond remained at a high value, (1692 cm^{-1}). In acrylic and methacrylic acids in liquid phase, however, the ethylene bond frequency remains the same, whereas the frequency of the carbonyl bond decreases considerably (to 1659 cm^{-1} and 1664 cm^{-1} , respectively).

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Hydrogen Bonding on Conjugation in
Acrylic and Methacrylic Acids

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This relationship of the bond frequencies is evidence of a decrease of the effect of the carbonyl bond conjugated with the ethylene bond, which is due to the carbonyl hydrogen bonding. Acrylic acid in liquid phase forms cyclic dimer complexes, and also multiple chain complexes which affect, to a varying extent, the electron density of the conjugated ethylene groups: (1) carbonyl participating in the hydrogen bonding of the dimer ring (1659 cm⁻¹); this carbonyl is most affected by the hydrogen bond, has the least electron density, and therefore shows an insignificant weakening effect only on the ethylene bond; the frequency of the latter remains at 1640 cm⁻¹; (2) carbonyl in the chain complex, with a greater electron density (1724 cm⁻¹), which affects the conjugated ethylene bond to a greater extent and lowers its frequency to 1631 cm⁻¹; (3) end carbonyls

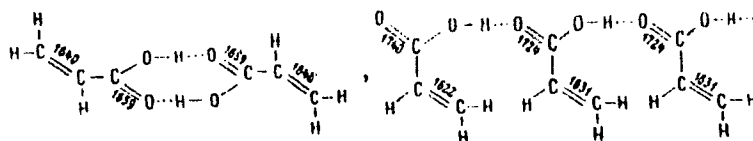
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Optical Investigation of the Effect of
Hydrogen Bonding on Conjugation in
Acrylic and Methacrylic Acids

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SCA 779-30-2-65/78

of the chain complex with the highest electron density (1740 cm^{-1}) which weakens the conjugated ethylene bond to the highest extent and reduces its frequency to 1622 cm^{-1} .

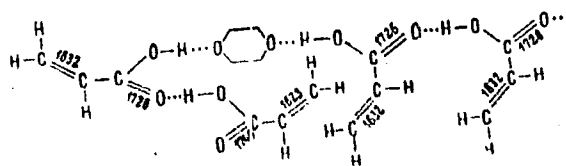


The analysis of spectral data of liquid methacrylic acid showed that the cyclic dimers are preponderant, and the cyclic chain complexes are almost nonexistent in this acid, due, evidently, to steric hindrance by the methyl group. The dissolution of acrylic and methacrylic acid in dioxane caused an opening of the ring; simultaneously, the dioxane and acid molecules formed an associated complex whose carbonyls formed, in turn, hydrogen bonds with other acid molecules, and the $\text{C}=\text{O}$ bond frequencies remained practically unchanged.

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Hydrogen Bonding on Conjugation in
Acrylic and Methacrylic Acids

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Unassociated carbonyls (as in methyl acrylate and methyl methacrylate) show an electron density nearer to that of the terminal carbonyls or carbonyls inside the chain, than to that of the carbonyls in the cyclic dimer. Hence, the nonparticipation of the carbonyls in hydrogen bonding increases its weakening effect on the conjugated ethylene bond. One of the factors which characterizes this effect is a substantial asymmetry of the electron shell of the carbon atom in the $C=O$ radical which leads to a marked decrease of the shielding effect of the positive nucleus from the side opposite to the oxygen atom ($> \overset{+}{C}=O$) and to a weakening of the ethylene bond. The presence of pairs of nonbonding electrons in the outer shell of the oxygen atom, makes it more susceptible to change under the influence of various factors such as hydrogen bonding, the introduction of substituents, etc., which lead to substantial changes in

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Hydrogen Bonding on Conjugation in
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the nature of the carbonyl bond and to corresponding changes in its effect upon the conjugated ethylene bond. ISP-51 spectrograph was used in the determination of the bond frequencies. There are 2 tables; and 4 Soviet references.

ASSOCIATION: Institute of Mineral Fuels, Academy of Sciences USSR, and Institute of Organic Chemistry, Academy of Sciences, USSR (Institut goryuchikh iskopayemykh Akademii nauk SSSR i Institut organicheskoy khimii Akademii nauk SSSR);

SUBMITTED: January 22, 1959

Card 5/5

S/020/60/132/03/25/066
B011/B008

AUTHORS: Batuyev, M. I., Onishchenko, A. S., Matveyeva, A. D.,
Aronova, N. I.

TITLE: Optical Investigation of Geometric and Rotatory Isomerism
of Some Dienes

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 3,
pp. 581-584

TEXT: The authors state on the basis of Refs. 1-4 that the flat trans-
form (II) is absolutely prevalent up to 95% in 1,3-butadiene at room ✓ 3
temperature. The cis-form (I) possesses no center of symmetry. At room
temperature it is only admixed to the trans-form. These statements are
confirmed chemically: 1,3-butadiene enters into the Diels-Alder
synthesis only slowly at room temperature. This reaction takes place
much more easily at a temperature rise which corresponds to the
transition of the trans-form into the cis-form. Rotatory isomerism is
also possible in the mono- and di-substituted 1,3-butenes investi-

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Optical Investigation of Geometric and
Rotatory Isomerism of Some DienesS/020/60/132/03/25/066
B011/B008

gated by the authors. In some cases, however, it is superimposed to the geometric isomerism, as for example in 1-chloro-1,3-butadiene and piperylene (1,3-pentadiene). On the basis of such a superimposition the authors presume the existence of the following 4 isomers: (III), (IV), (V) and (VI) (see Scheme). The trans-forms (III) and (V) predominate here too at room temperature in the liquid phase. They possess no center of symmetry. The symmetric as well as the asymmetric frequencies of their double bonds must therefore appear in their Raman- and IR-absorption spectra. The frequencies must be higher in (V) than in (III). All this was actually established by the authors. They state that the oscillation frequencies of the double bonds of the trans-configurations are higher than those of the cis-configurations. The chemical data are in agreement with these statements. Thus, the cis-configurations of the trans-form (III) do not enter into the Diels-Alder synthesis at $X = Cl, CH_3$ even at a temperature rise, since in this case (III) can only proceed into the cis-configuration of the cis-form (IV), the formation of which is, however, limited sterically. The trans-configurations of the trans-form (V), on the other hand, enter into the Diels-Alder synthesis at temperature rise. They proceed thereby into the trans-

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Optical Investigation of Geometric and
Rotatory Isomerism of Some Dienes

S/020/60/132/03/25/066
B011/B008

configuration of the flat cis-form (VI) which favors the said reaction. The authors presume 2 flat forms for chloroprene and isoprene: a trans-form (VII) and a cis-form (VIII) ($X = Cl, CH_3$) exactly as with 2,3-dimethyl-butadiene (IX) and (X). Of these forms, (VII) and (IX) are prevalent at room temperature. The authors discuss the correlations of these forms with the Raman- and IR-spectra (Table 2) which were recorded on the Soviet spectrograph of type MCT (ISP-51) and Hilger spectrograph of type E-612 (Ye-612). The physical properties of the substances investigated are mentioned finally. There are 1 table and 8 references, 4 of which are Soviet. B

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk (Institute of Combustible Minerals, AS USSR). Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N.D. Zelinskiy, AS USSR)

PRESENTED: December 2, 1959, by B. A. Arbuzov, Academician

SUBMITTED: December 7, 1959

Card 3/3

BATUYEV, M.I.; AKHREM, A.A.; KAMERNITSKIY, A.V.; MATVEYEVA, A.D.

Optical study of the conformations of cyclohexanone and some of its derivatives. Dokl.AN SSSR 133 no.5:1077-1080 Ag '60.
(MIRA 13:8)

1. Institut goryuchikh iskopayemykh Akademii nauk SSSR i Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR.
(Cyclohexanone)

BATUYEV, M.I.; SHMONINA, L.I.; MATVEYEVA, A.D.; SHOSTAKOVSKIY, M.F.

Optical study of the structure of some 1, 2, 3-substituted 1, 3-butadienes. Izv.AN SSSR Otd.khim.nauk no.3:513-516 Mr '61.
(MIRA 14:4)

1. Institut goryuchikh iskopsyemykh AN SSSR i Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Butadiene)

BATUYEV, M.I.; AKHREM, A.A.; KAMERNITSKIY, A.V.; MATVEYEVA, A.D.

Optical study of conformations of cyclopentanone and α -chloro-
cyclopentanone. Izv. AN SSSR. Otd. khim. nauk no. 6: 1138-1141 Je '61.
(MIRA 14:6)

1. Institut ~~z~~ryuchikh iskopayemykh AN SSSR i Institut organicheskoy
khimii im. N.D. Zelinskogo AN SSSR.
(Cyclopentanone) (Isomers)

BATUYEV, M.I.; AKHREM, A.A.; KAMERNITSKIY, A.V.; MATVEYEVA, A.D.

Optical investigation of conformations of cyanohydrins of
some derivatives of cyclohexanone. Izv.AN SSSR.Otd.khim.nauk
no.10:1813-1816 0 '61. (MIRA 14:10)

1. Institut goryuchikh iskopayemykh AN SSSR i Institut organicheskoy
khimii im. N.D.Zelinskogo AN SSSR.
(Cyanohydrins) (Cyclohexanone)

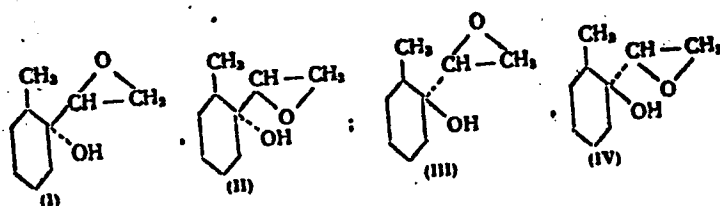
S/020/61/137/005/017/026
B103/B208

AUTHORS: Batuyev, M.I., Akhrem, A.A., and Matveyeva, A.D.

TITLE: Optical study of the conformations of 2-methyl-1-hydroxy-
-cyclohexyl-ethylene oxides

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 5, 1961, 1113 - 1116

TEXT: It is the purpose of the present study to define the structure of
the following glycidic alcohols:



which had been obtained by oxidation by peracetic acid in chloroform from

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B103/B208

Optical study of the ...

cis-2-methyl-1-vinyl cyclohexanol: (I) and (II); and trans-2-methyl-1-vinyl-cyclohexanol: (III) and (IV); and which were assumed to have the above structural formulas. All four alcohols have different melting points. Their structures were studied by their Raman spectra recorded on the USSR spectrograph of the type MCH-51 (ISP-51), and on an E612 Hilger spectrograph. It is concluded from the data (Table 1) that a hydrogen bond exists between the hydroxyl group of these alcohols in liquid state and the oxygen atom of the oxide ring. This is confirmed by the fact that the O - H frequency is a blurred narrow band which is quite different in the two trans-isomers. It is narrow ($\sim 45 \text{ cm}^{-1}$) in the low-melting isomer (IV) ($40.5 - 41^\circ\text{C}$), and broader ($\sim 200 \text{ cm}^{-1}$) in the high-melting isomer (III) ($75 - 75.5^\circ\text{C}$). This is assumed to indicate a predominance of the intramolecular H-bond in (IV), whereas in (III) the intermolecular bond prevails. This difference seems to exert a considerable effect on the melting points. This fact was used for the identification of (III) and (IV). If the different melting-points of (I) and (II) have the same reason, the higher-melting alcohol (I) ($43 - 43.5^\circ\text{C}$) is that with intermolecular H-bond,

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B103/B208

while the liquid (II) has the intramolecular bond. This assumption was confirmed optically. In a considerable part of the molecules of (II) in the liquid phase the O-H group is released from the intramolecular H-bond and enters the intermolecular H-bond. The threo-isomer is thus partly converted to the erythro-isomer, or to an isomer having a similar position of the oxide ring as the erythro-isomer. The conversion of the erythro-isomer to the threo-isomer can hardly be confirmed optically in the case of (I). The authors conclude from these facts that the two types of H-bond represent the most important stabilizing factors in the case of erythro-threo-isomerism. The energy of the H-bond is not high (~ 3 kcal/mole). These bonds therefore cause a considerable difference of the mentioned isomerism in crystalline state, but not in liquid or super-cooled-liquid state. The intramolecular bonds are, as a rule, not destroyed in 20% solutions of these alcohols in CCl_4 , which was also optically confirmed. The complexes of (I) and (III) with several members, which are associated by the intramolecular H-bond, are destroyed, while dimeric complexes are preserved, and monomers are formed. The authors conclude from the optical data that under their experimental con-

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ditions each of the four alcohols mentioned exists in two conformations. The prevalent conformation are: in (I) - cis-ea (Fig. 1), in (III) and (IV) - trans-ee; in (II) both conformations appear to about the same extent. There are 1 figure and 6 Soviet-bloc references.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR
(Institute of Mineral Fuels of the Academy of Sciences USSR)
Institut organicheskoy khimii im. N. D. Zelinskogo
Akademii nauk SSSR (Institute of Organic Chemistry imeni
N. D. Zelinskiy of the Academy of Sciences USSR)

PRESENTED: November 28, 1960, by B. A. Arbuzov, Academician

SUBMITTED: December 29, 1960

Card 4/7

Optical study of the ...

S/020/61/137/005/017/026
B103/B208

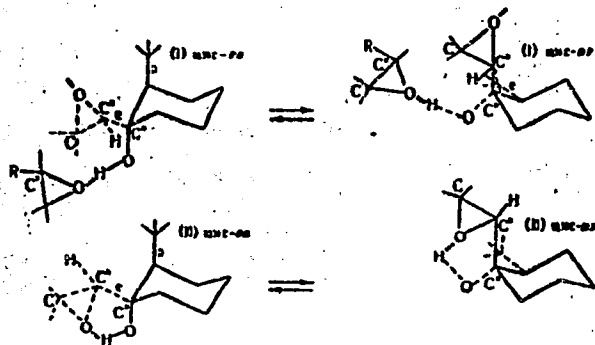


Fig. 1

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Optical study of the

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B103/B208

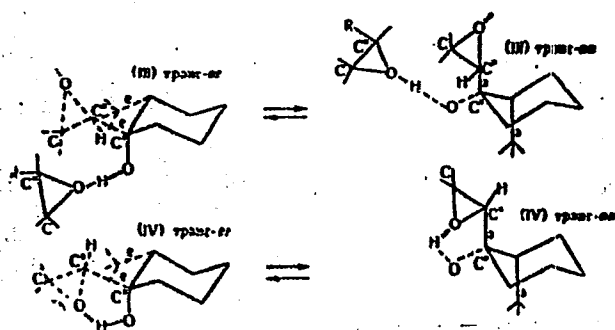


Fig. 1 contd.

Fig. 1. Legend: a) cis- b) trans-

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B103/B208

Таблица 1

Частоты колебаний гидроксильной группы, оксидного цикла и циклогексанового кольца (в см⁻¹)



Группы 1	2. Жидкое состояние				3. 20% раствор в CCl ₄			
	(I)	(II)	(III)	(IV)	(I)	(II)	(III)	(IV)
O-H	3300-3670; Δ полоса	3620-3665; полоса	3300-3600; Δ полоса	3630-3680; полоса	3641 (1°) 358 (2°) 3612 (0) 3621 (1)	3625 (1°) 3602 (2°) 3612 (0) 3622 (0)	3642 (1°) 3603 (2°) 3613 (0) 3623 (0)	3627 (1°) 3650 (2°) 3613 (0) 3626 (0)
	1250 (2°) 1257 (9°) 1269 (2° дб)	1252 (2° дб) 1255 (9° дб)	1252 (7 дб) 1268 (1 дб)	1262 (1 дб) 1269 (6 дб)	1249 (1°) 1255 (5°) 1269 (1 дб)	1252 (1° дб) 1264 (5° дб)	1252 (5 дб) 1268 (0 дб)	1253 (1 дб) 1269 (4 дб)
	703 (8 дб) 714 (2 дб)	702 (8 дб) 713 (8 дб)	700 (1 дб) 716 (7 дб)	703 (1 дб) 716 (8 дб)	700 (4 дб) 714 (1 дб)	701 (4 дб) 715 (2 дб)	701 (1 дб) 719 (4 дб)	690 (1 дб) 715 (4 дб)

Table 1. Vibrational frequencies of the hydroxyl, the oxide ring, and the cyclohexane ring (cm⁻¹). Legend: 1) group; 2) in liquid state; 3) 20% solution in CCl₄; a) band; b) narrow bands; c) narrow band; Δb - doublet.

Card 7/7

MATVEYEVA, A.G.

Difficulties in the laboratory's work. Zav.lab.21 no.6:757 '55.
(MIRA 8:9)

1. Khimicheskaya laboratoriya Chelyabinskogo zavoda
(Metallurgical laboratories)

L 45165-66 EWT(d)/FSS-2/EWT(1)

ACC NR: AP5028629

SOURCE CODE: UR/0057/66/036/008/1514/1515

AUTHOR: Lentsman, V.L.; Matveyeva, A.G.; Tsukkerman, I.I.

ORG: none

TITLE: Spatial filtering of electron images during accumulation on the screen

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 8, 1966, 1514-1515

TOPIC TAGS: electron optics, image converter, image contrast, electrooptic image intensifier

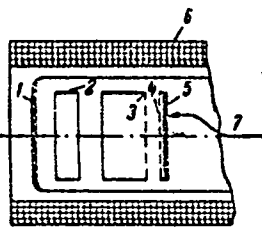
ABSTRACT: The authors have experimentally verified the possibility of increasing the contrast of an electron image by a technique proposed elsewhere by one of them (I.I. Tsukkerman. Geometricheskiye preobrazovaniya i prostranstvennaya fil'tratsiya elektronnykh izobrazheniy. Avtoreferat dissertatsii. LFTI AN SSSR, L., 1964). The technique consists in suppressing the long wavelength spatial Fourier components of the image by first accumulating on the screen a negative image that is out of focus, and subsequently accumulating a well focused positive image. The experiments were performed with the superopticon television tube shown in section in the figure. Electrons from the photocathode 1 were accelerated by electrodes 2 and 3 and were focused by the magnetic field of the winding 6 onto the screen 5. With the aid of grid 4 near the screen and a grid on electrode 3 (both grids are shown in the figure by dashed lines) it was possible to vary the energy of the electrons incident on the

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537,533.3

L 45165-66

ACC NR: AP6028629



screen, and also to defocus the image without rotating it. The positive image was accumulated with an incident electron energy such that the secondary emission coefficient of the screen was greater than unity, and the negative image was accumulated with a lower incident electron energy. The considerable increase in contrast achieved in these experiments is illustrated by photographs of a kinescope screen showing the positive image alone, the defocused negative image, and the combined sharpened image.

A valuable feature of this technique is that the contrast improvement takes place before the screen is interrogated by the electron beam and is therefore unaffected by fluctuations in the video signal circuits. Orig. art. has: 1 formula, and 3 figures. [15]

SUB CODE: 20,09
5081

SUBM DATE: 12Feb66

ORIG. REF: 001/ ATD PRESS:

Card 2/2 *avm*

MATVEYEVA, A. I.

Subject : USSR/Engineering AID P - 2330
Card 1/1 Pub. 110-a - 11/17
Author : Matveyeva, A. I.
Title : Letter to the editors
Periodical : Teploenergetika² 5, 52-53, My 1955
Abstract : The author answers the article of N. S. Vasil'yev "On an Efficient Method of Preparation of Humid Pulverized Coal" and gives her experience with gas-drying of pulverized coal done for boilers of the TP-30 type.
Institution : Aleksandriyskaya Electric Power Plant
Submitted : No date

MATVEYEVA, A. I.

Animal Morphology

DECEASED
c. 1962

1962

7

KAZAKOV, V.P.; MATVEYEVA, A.I.; YERENBURG, A.M.; PESHCHEVITSKIY, B.I.

Kinetics of the reduction of complex gold (III) chlorides with oxalate in an aqueous solution. Zhur. neorg. khim. 10 no.5: 1038-1044 My '65. (MIRA 18:6)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.

AFANAS'YEVA, T.N.; MATVEYEVA, A.L.

Stabilization of diazo solutions. Tekst. prom. 25 no.9:63
S '65. (MIRA 18:10)

1. Zamestitel' nachal'nika khimicheskoy laboratorii fabriki
imeni rabochego F. Zinov'yeva (for Afanas'yeva). 2. Nachal'nik
krasil'no-zavarochnogo tsekha fabriki imeni rabochego F. Zinov'yeva
(for Matveyeva).

MATVEYEVA, A. K.

20185 MATVEYEVA, A. K. Nablyudeniya prirody. Doshkol. vospitaniye, 1949,
No. 6, s. 24-32

SO: LETOFIS ZHURNAL STATEY, Vol. 27, Moskva, 1949

VOROB'YEVA, E.I.; MATVEYEVA, A.L.

~~Stylium~~ Vertebrata: Class Osteichthyes. Trudy SNIIGGIMS no.21:
215-220 '62. (MIRA 16:12)

Matveyev, Aleksandra, Nikolayevna

MATVEYEVA, Aleksandra Nikolayevna; SAYDAKOVA, Ye.I., red.; SOKOLOVA, R.Ye.,
tekh.red.

[Nature observations and geography excursions for the fifth grade]
Nabludeniya i geograficheskie ekakursii v prirodu (V klass).
Moskva, Izd-vo Akad. pedagog.nauk RSFSR, 1957. 92 p. (MIRA 11:2)
(Nature study) (School excursions)

USSR/Chemistry - Polarographic reduction

Card 1/1 Pub. 151 - 8/37

Authors : Bobrova, M. I., and Matveyeva, A. N.

Title : Polarographic reduction of ether

Periodical : Zhur. ob. khim. 24/10, 1741-1749, Oct 1954

Abstract : The behavior on a mercury drop electrode of numerous vinyl ethers, as well as certain esters with carbonyl bond, conjugated with ethylene bond, - methyl acrylate, methyl and butyl acrylate and free methacrylic acid, was investigated. It was established that vinyl ethers without conjugated double bond in the molecule will not submit to reduction over a mercury drop electrode. Methyl acrylate, methacrylic acid, methyl methacrylate and butyl methacrylate containing conjugated double bonds in the molecule submit to polarographic reduction and can be determined quantitatively. Eight references: 4-USSR; 2-USA; 1-German and 1-Italian (1936-1953). Tables; graphs; drawing.

Institution : The V. M. Molotov Engineering-Economy Institute, Leningrad

Submitted : March 16, 1954

GUREVICH, P.V.; MATVEYEVA, A.N.; ZAGREBINA, M.M.; SUROVTSYEV, N.S.

In memory of Aleksandr Nikolaevich Ivanov. Geog.v shkole 19 no.1:
72 Ja-F '56. (MLRA 9:5)
(Ivanov, Aleksandr Nikolaevich, 1883-1955)

BOZHOVA, M.I.; MATVEYEVA, A.N.

Polarographic study of the kinetics of polymerization processes.
Zhur.ob.khim. 26 no.7:1857-1860 J1 '56. (MIRA 9:10)

1. Leningradskiy inzhenerno-ekonomicheskii institut.
(Polarography) (Polymers and polymerization)

AUTHOR:

Matveyev, A.N.

S/055/59/000/04/010/026
B014/B005

TITLE:

The Amount of Electron Losses by Phase Oscillations Induced by
Emission Fluctuations in Synchrotrons 9

PERIODICAL:

Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki,
astronomii, fiziki, khimii, 1959, Nr 4, pp 97-104 (USSR)

ABSTRACT:

In the introduction, it is stated that, in calculating the electron losses in a synchrotron, the phase oscillation may be considered to be independent of betatron oscillations, and that the radial phase oscillations cause only small losses. The author describes the stochastic characteristics of the emission processes in synchrotrons, and indicates formulas for the probability of photon emission, for the average number of photons emitted per unit of time, and for the average free path of electrons. The formulas given by the author in a previous paper (Ref 3) for calculating the electron losses, caused by phase oscillations, consider the effects of nonlinearity. The calculations by these formulas were carried out by means of the high-speed electron computer "Strela" of the MGU Calculating Center. The formulas used for these computations and taken from the above-mentioned paper by the author are indicated, and their convergence is discussed. The character of the increase in magnetic field intensity exerts the principal influence on electron losses. (✓)

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The Amount of Electron Losses by Phase Oscillations
Induced by Emission Fluctuations in Synchrotrons

S/055/59/000/04/010/026
B014/B005

The losses are much higher with a sinusoidal increase in magnetic field intensity than with a linear increase. Further, the losses depend on the maximum energy of the accelerated electrons, the duration of acceleration cycles, and the amplitude of the high-frequency field. The calculations were carried out for a wide energy range; some results are shown by the diagrams in figures 1-4. The high accuracy of the method described is pointed out in the discussion of the results. There are 4 figures and 4 Soviet references.

ASSOCIATION: Kafedra statisticheskoy fiziki i mekhaniki (Chair of Statistic Physics and Mechanics)

SUBMITTED: February 24, 1959



Card 2/2

LEONT'YEV, V.B.; MATVEYEVA, A.P.; SADYKOV, A.S.

Space configuration of anabasine studied by means of a complex-forming reaction. Nauch.trudy TashGU no.263.Khim.nauki no.13:40-52 '64. (MIRA 18:8)

MATVEYEVA, A.P.

Significance of the size of effective renal blood flow in hypertension and in chronic nephritis. Zdrav. Kazakh. 21 no.1836-39 '61.

(MIRA 14:3)

1. Iz kafedry gosspital'noy terapii lechebnogo fakul'teta (zav. -- dotsent R.A.Satpayeva) Kazakhskogo meditsinskogo instituta.
(HYPERTENSION) (KIDNEYS--DISEASES)

MATVEYEVA, A. D.

25(6)

p 2

PHASE I BOOK EXPLOITATION

SOV/1498

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya

Ul'trazvukovyye pribory TsNIITMASH (TsNIITMASH Ultrasonic Equipment) Moscow, Mashgiz, 1958. 85 p. (Series: Its: [Trudy] kn. 88) 3,000 copies printed.

Ed.: A.S. Matveyev, Candidate of Technical Sciences; Tech. Eds.: Ye.S. Gerasimova and A. F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Making (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for engineering and technical personnel of plants and scientific research institutes engaged in the development of ultrasonic equipment and methods for inspecting metal products, and for those who use such equipment.

COVERAGE: This is a collection of articles describing work done by the Instrument-making Department of TsNIITMASH (Central Scientific Research Institute of Technology and Machinery) during the period 1954-1956 on the development of ultrasonic equipment for detection of flaws and measurement of thicknesses. Various ultrasonic flaw detectors and thickness gages developed during the period 1950-1956 are described.

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TsNIITMASH Ultrasonic Equipment

SOV/1498

An article by V.I. Ryzhov and M.F. Krakoviyak presents a detailed description of a frequency deviator developed by the authors for tuning of wideband amplifiers. The device has two frequency ranges: 0.5 to 1.5 and 1.4 to 1.5 megacycles. It is stated that the use of this device facilitates the adjustment of ultrasonic flaw-detectors. The outlook for future application of ultrasonics in heavy machinery building is also discussed.

TABLE OF CONTENTS:

Foreword

3

Matveyeva, A.S., Candidate of Technical Sciences, and I.N. Yermolov and M.F. Krakoviyak, Engineers. TsNIITMASH Ultrasonic Equipment

5

Yegorov, N.N., Engineer. Prospects for Application of Ultrasonic Methods in the Control of Some Manufacturing Processes in Machine Building

30

Gubanova, M.R., Candidate of Technical Sciences. Ultrasonic Flaw Detection in Some Types of Large Welds

41

Card 2/3

TsNIITASH Ultrasonic Equipment

SOV/1498

Yegorov, N.N., Engineer. Application of Ultrasonics in Checking the
Depth of an Electrically Hardened Layer in Steel Products

Ryzhov, V.I., and M.F. Krakovyak, Engineers. Frequency Deviator for
Wideband Amplifier Tuning

AVAILABLE: Library of Congress

66

82

Card 3/3

GO/fal
4-22-59

MEZHIROVA, L.P.; YAKOVLEVA, M.K.; ~~MATVEYEVA, A.V.~~; ABKIN, A.D.; KHOMIKOV-
SKIY, P.M.; MEDVEDEV, S.S.

Polymerization in emulsions under the action of γ -radiation.
Vysokom.sped. 1 no.1:68-72 Ja '59. (MIRA 12:9)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(Polymerization) (Gamma rays)

03706
1/190/60/002/006/009/012
0015/0064

1995

Kotredov, S. S., Abkin, A. D., Khomikovskiy, P. M.,
Gerasimov, G. M., Gerasov, V. P., Chikin, Yu. A., Kolmogorov,
V. A., ANEP, A. L., Takoleva, M. K., Kashirava, Ye. P.,
Melnyova, A. V., Besrubit, Z. G.

087824

Polymerization of Ethylene Under the Influence of γ -Radiation

PROPERTY

Yvohkmoekulyaraye sayedireniya, 1960. Vol. 2, No. 6.
pp. 904-915

TABLE IX. The radiation-chemical polymerization of ethylene in the gaseous phase and in organic substances was investigated at different pressure and radiation dose as well as some properties of the polymers formed.

1/2 1/4

spectroscopically analyzed by H. V. Litzhroner and K. I. Durkin.⁷ The molecular weight of the polyethylenes obtained was determined by the method of end group analysis according to E. O. Goble and K. M. Heitner,⁸ which will be given in a separate paper. The composition of the copolymerized ethylene with cyclohexane, methanol, and acetone⁹ in benzene, cyclohexane, methanol, and acetone at 0°C. was determined as follows (Table 1) that reaction proceeds tentatively more rapidly than in the gaseous phase. The polymers formed have a molecular weight of 20000-40000. Polymers of the structure $\text{Cl}_2(\text{C}_6\text{H}_4)_2\text{Cl}$ (60%) and $\text{Cl}_2(\text{C}_6\text{H}_4)_2\text{Cl}$ (20%) form in good yield in carbon tetrachloride. Polyacrylonitrile in the gaseous phase was investigated at constant pressure (100-300 atm., 72°/sec.) and decreasing pressure (100 and 150 atm., 72°/sec.). The polymerization rate increases rapidly if appropriate are made in the presence of acrylonitrile (Table 2). To begin with, the polymerization rate increases with time and reaches that of a constant value. The mean molecular weight and the characteristic viscosity of the polymers increase with preceding polymerization time. The mean reaction rate amounts to 16.9 g./hour at polymerization (Table 3).

Card 2/1

20-5 g./hour (Table 4). The mean molecular weight and viscosity of polyethylene (Table 5) rise with pressure (i.e. the ethylene concentration). The maximum rate of polymerization increases somewhat with the radiation dose with a proportional factor of 0.5, while the radiation-chemical yield decreases with an increase in the radiation dose with a factor of 0.7. The molecular weight of polyethylene increases with a reduction of radiation dose with a factor of 0.7. The molecular weight of polyethylene increases with decreasing radiation dose (Table 6). A temperature increase from 5°C to 50°C at constant ethylene concentration causes a decrease in the polymerization rate and the molecular weight (Table 7). Investigations carried out by the Kolbacz and Kowalski¹ in the Laboratory of Radiochemistry of the "Chemists' Institute" showed that the polyethylene obtained has a higher density (0.945-0.947 g./cm³) and a higher degree of crystallization than high-pressure polyethylenes, however slightly from the latter with respect to polyethylene, tensile strength. In conclusion, the authors thank A. K. Zrazko for the preparation of the samples, K. A. Golik for assisting in carrying out the experiments with the gamma source. There are 8 figures, 7 tables, and 1 reference: 5 Soviet, 4 US, 1 British, and 1 Belgian.

Card 3/4

153021-9707.

Physico-chemical Institute named L. Ya. Karper

INDEXED: February 24, 1960

ALEKSANDROV, Yu.A.; VORONOV, G.S.; GORBUNKOV, V.M.; DELONE,
N.B.; NECHAYEV, Yu.I.; MATVEYEVA, A.V., red.; POPOVA,
S.M., tekhn. red.

[Bubble chambers] Puzyr'kovye kamery. [By] IU.A.Aleksandrov
i dr. Moskva, Gosatomizdat, 1963. 339 p. (MIRA 17:1)

KOT, Aleksandr Akimovich, doktor tekhn. nauk; MATVEYEVA, A.V.,
red.

[Water treatment and the water system of atomic electric
power plants] Vodopodgotovka i vodnyi rezhim atomnykh elek-
trostantsii. Moskva, Atomizdat, 1964. 345 p.
(MIRA 17:5)

USHAKOV, V.D.; MATVEYEVA, A.V.; SLOVOKHOTOVA, N.A.; KHOMIKOVSKIY, P.M.;
ABKIN, A.D.

Radiation polymerization of diketone in the solid and liquid states.
Vysokom.sped. 7 no.7:1165-1170 J1 '65. (MIRA 18:8)

1. Fiziko-khimicheskiy institut imeni Karpova.

MATVEYEVA, A.V.; ABUBAKIROV, N.F.

Saponins in *Patrinia intermedia* Boem, et Schult. Uzb. Khim. zhur. 8
no. 5:43-46 '64. (MIRA 12:5)

1. Institut khimii rastitel'nykh veshchestv AN UzSSR i Kirgizskiy
institut krayevoy meditsiny AMN SSSR.

KARPACHEVA, S.M., doktor khim. nauk, prof.; ZAKHAROV, Ye.I.;
RAGINSKIY, L.S.; MURATOV, V.M.; MATVEYEVA, A.V., red.

[Pulsating extractors] Pul'siruiushchie ekstraktory.
Moskva, Atomizdat, 1964. 298 p. (MIRA 17:12)

KASHANOVA, N.I.; BUSHTUYEVA, N.G.; MATVEYEVA, A.V.

Use of fluorescent serums in the detection of typhoid bacilli
in the blood. Trudy TSIU 68:77-78 '64. (MIRA 18:5)

KASHANOVA, N.I.; MATVEYEVA, A.V.

Detection of typhoid bacilli in the blood by the phage titer growth
reaction. Trudy TSIU 68:79-81 '64. (MIRA 18:5)

KASHANOVA, N.I.; MATVEYEVA, A.V.; LISTAROVA, N.A.

Isolation and characteristics of auxotrophic mutants of
Salmonella typhi. Trudy TSIU 80:44-48 '65. ~~*****~~

Study of the virulence and immunogenicity of auxotrophic
mutants of Salmonella typhi. Ibid.:49-55 (MIRA 18:11)

DANILOVICH, N.N., red.; MATVEIEVA, A.Ya.

[Equipment for horizontal cylindrical tanks for petroleum products] Oborudovanie dlia gorizontaI'nykh tsilindricheskikh rezervuarov dlia nefteproduktov. Izd.ofitsial'nos. Moskva, 1960. 57 p. (MIRA 14:4)

1. Russia (1923- U.S.S.R.) Vsesoyuznyy komitet standartov.
(Tanks)

GUTOVOY, Nikolay Nikolayevich; MATVEYEVA, B.S., prof., red.;
DANIL'CHENKO, O.I., red.

[Comprehensive laboratory manual on the zoology of the
vertebrates; anatomical part] Bol'shoi praktikum po zo-
ologii pozvonochnykh; anatomicheskaya chast'. Moskva,
Izd-vo Mosk. univ. Pt.2. no.2. 1964. 45 p.
(MIRA 18:6)

MATVEYEVA, B.

In the Mechanical-Mathematical Faculty. Vest.Mosk.un. 8 no.6:168-169 Je '53.
(MIRA 6:10)

(Mathematics) (Deformations (Mechanics))